

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A data receiver for receiving user data and reference data coming from a transmitter via at least a channel, the data receiver, comprising:

means for unscrambling data[[,]];

means for despreading unscrambled data[[,]];

means for analyzing a characteristic of the channel[[,]];

~~for each path in a plurality of rake finger~~ fingers of the data receiver, each rake finger comprising[[,]]

means for respectively evaluating the contribution of interferences of data caused by the channel[[,]]; and

~~subtractor~~ subtractor means for cancelling the contribution of interference in the user data for the rake finger, using the respectively evaluated interferences in each path of the rake finger, said ~~subtractor~~ subtractor means being placed before said unscrambling means.

2. (Currently Amended) A The data receiver ~~as claimed in~~ of claim 1, ~~characterized in that~~ wherein the data are in compliance with the UMTS standard.

3. (Currently Amended) A The data receiver ~~as claimed in~~ of claim 2, ~~characterized in that~~ wherein the reference data are provided by the CPICH channel.

4. (Currently Amended) A method for receiving user data and reference data coming from a transmitter via at least a channel which causes interference in the user data, the method comprising the ~~following~~ steps of:

analyzing the characteristic of the channel by using the reference data~~[[,]]~~;
~~for each path in a rake finger, respectively~~ determining an evaluation of the
interferences of data provided in each path by the channel in each of a plurality of
rake fingers~~[[,]]~~;

~~subtracting~~ subtracting the evaluation of interference from the received user
data in each of the plurality of rake fingers ~~finger~~~~[[,]]~~; and

unscrambling the user data received via each of the plurality of rake fingers
~~finger~~.

5. (Currently Amended) The method of claim 4, further comprising the steps
of: including

adding a determined evaluation of each path in each of the plurality of rake
fingers ~~finger~~ together to determine interference in the rake finger, wherein
~~subtracting~~ subtracting the evaluation of interference includes ~~subtracting~~
subtracting the determined interference in each of the plurality of rake fingers ~~finger~~
from user data processed via each of the plurality of rake fingers; ~~finger~~ and

providing an output representing interference-corrected user data for
unscrambling, and wherein unscrambling includes unscrambling the interference-
corrected user data output ~~to provide a rake finger output from the unscrambling~~
~~step~~.

6. (Currently Amended) The method of claim 4, wherein ~~subtracting~~
subtracting includes ~~subtracting~~ subtracting an interference evaluation within each
of the plurality of a rake fingers ~~finger~~.

7. (Currently Amended) The method of claim 4, wherein respectively
determining an evaluation of the interferences ~~includes~~ comprises separately

determining an interference evaluation for each of a plurality of paths within each of the plurality of rake fingers finger, further comprising the steps of: including adding the separately-determined interference evaluations, and wherein ~~subtracting~~ subtracting includes ~~subtracting~~ subtracting the added interference evaluations from the received user data.

8. (Currently Amended) The data receiver of claim 1, wherein the means for respectively evaluating the contribution of interferences ~~includes~~ further comprising:

an interference estimator for each path in the rake finger, each interference estimator including a plurality of correlators and a correlator adder to add the output of each correlator, and

an interference adder to add the output of the interference estimator for each path; and

the ~~subtractor~~ subtractor means is ~~located in the rake finger~~, coupled to receive an output from the interference adder, adapted to ~~subtract~~ subtract the output of the interference adder from the user data to provide a ~~subtracted~~ subtracted user data output, and coupled to provide the ~~subtracted~~ subtracted user data output to the means for unscrambling data.

9. (Cancelled)

10. (Currently Amended) The data receiver of claim 1, wherein the means for respectively evaluating ~~includes~~ comprises a plurality of interference estimators respectively allocated to a path in the plurality of rake fingers, and an adder to add an output of the interference estimators[[],]; and

the ~~subtractor~~ subtractor means is located after the adder and adapted to receive and use an output from the adder to ~~subtract~~ subtract interference from user data processed via the rake finger.

11. (Currently Amended) A rake receiver for processing a received data signal, the rake receiver, comprising:

a plurality of rake fingers, ~~at least one of the rake fingers including for each of the a plurality of paths in the rake~~ fingers comprising:

~~finger,~~ an interference estimator to determine the interference in the path_{[[,]]_i};

an adder to add the determined path interferences from the interference estimators_{[[,]]_i};

a ~~subtractor~~ subtractor to ~~subtract~~ subtract the added interferences from the received data signal to provide a corrected output corresponding to the received data signal with the interferences ~~subtracted~~ subtracted therefrom_{[[,]]_i}; and

an unscrambler to receive and unscramble the corrected output to provide an unscrambled output;

a despreader to receive and despread the unscrambled output to provide a despread output; and

a combiner to combine the despread output with outputs from others of the plurality of rake fingers.

12. (Currently Amended) The rake receiver of claim 11, each of the interference estimators, ~~includes~~ further comprises:

a plurality of correlators, each correlator adapted to generate an interference estimate for all j-1 paths in the received data signal, where j is not equal to the path of the finger in which the correlator is located_{[[,]]_i}; and

an adder to add the output of the plurality of correlators, and to provide the output as the determined path interference for the interference estimator.

13. (Currently Amended) The rake receiver of claim 11, further comprising:
including a conjugate device to evaluate the conjugate of a scrambling code for the data signal, and
wherein the unscramble uses the evaluated conjugate to unscramble the corrected output.

14. (Currently Amended) The rake receiver of claim 11, wherein each interference estimator includes a plurality of correlators, the number of correlators corresponding to the number of paths for the signal, the combined output of the correlators for a particular interference estimator providing the determined path interference for the particular interference estimator, at least one of the correlators including comprising:

a channel multiplier to multiply channel coefficients by a value of a channel symbol for the received data signal[.];

scrambling multipliers $M(-N)$ and $M(+N)$ to multiply an output from the multiplier with a scrambling code of a parasitic link delayed in accordance with a delay of the link[.];

operators $p(-N)$ to $p(+N)$ to operate on the output of the scrambling multipliers, where N corresponds to a number of interference coefficients p , each coefficient being generated by a cross-correlation of transmitting and receiving filters used for respectively transmitting and receiving the data signal[.]; and

an adder to sum the output of the scrambling multipliers as applied to the operators to provide the output of the correlator.